

Attorney Docket No.: 06816-073003
Application No.: 09/933,684
Amendment dated January 9, 2004
Reply to Office Action dated October 9, 2003

REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

Initially, all of the current rejections have been obviated by the amendment of claim 3 to include the additional limitation of swelling the membrane prior to applying the catalyst material.

Specifically, the present application is directed towards a system to be used in a fuel cell of the type which typically requires a platinum catalyst. In fact, the material of the catalyst including platinum has been added to claim 3. One problem with such a system, however, is that platinum is extremely expensive. Any wasting of the catalyst material during the application can become expensive indeed.

As explained in the summary, softening the membrane by pre-swelling may improve the efficiency of the catalyst and minimize the waste. This may result in lower catalyst loading levels, see for example, see page 6, lines 1-5. In addition, the pre-treatment may reduce wrinkling during catalyst application, content allowing the catalyst to more effectively adhere (see page 8, lines 19-25).

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None of the cited prior art in any way teaches or suggests this initial step of treating the membrane with a swelling agent to swell the membrane and to form a swelled membrane. In this way, therefore, the amendment to claim 3 completely obviates the rejections which are currently pending in the case.

As another initial note, admittedly Grot teaches that the catalyst which is used can be poured or sprayed and that the viscosity of the catalyst can be adjusted in multiple different ways. However, note that Grot apparently teaches away from the techniques of the present invention in column 6, lines 15-20, which expressly teach the catalyst loading is not critical. In contrast, according to the present invention, catalyst loading is extremely important -- making this system quite different than the techniques of Grot.

In view of the above amendments and remarks, therefore, all of the claims should be in condition for allowance. A formal notice to that effect is respectfully solicited.


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Respectfully submitted,

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